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Esophageal remnant cancer 35 years after acidic caustic injury: A case report

Ioannis Ntanasis-Stathopoulos^{a,*}, Stamatina Triantafyllou^a, Vasiliki Xiromeritou^b, Nikolaos Bliouras^a, Chriso Loizou^a, Dimitrios Theodorou^a^a Department of Foregut Surgery, 1st Propaedeutic Surgical Clinic, "Hippokration" General Hospital of Athens, National and Kapodistrian University of Athens, 114 Vas. Sofias Av., 11527 Athens, Greece^b Department of Gastroenterology, "Hippokration" General Hospital of Athens, Athens, Greece

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ABSTRACT

INTRODUCTION: Esophageal squamous cell carcinoma has been described as a long-term consequence following ingestion of corrosive substances.**PRESENTATION OF CASE:** We report a rare case of a 62-year-old female patient with a history of acidic caustic injury 35 years ago, for which she had undergone near total esophagogastrrectomy with right colon interposition. Recently, she presented with worsening dysphagia, weight loss, neck swelling and chest pain. After the diagnostic workup, an invasive squamous cell carcinoma of the esophagus was confirmed. To our knowledge, this is the first such report in the literature.**DISCUSSION:** The risk for esophageal carcinoma increases substantially after ingestion of caustic substances. It is notable that distinct patterns of carcinogenesis between acids and alkalis may be postulated, since the corresponding pathophysiological impact of each one differ significantly. Although such esophageal cancers tend to have good prognosis due to early detection, both the diagnostic and therapeutic strategy may be challenging due to the limited available data in this field. Surgical treatment does not seem to eliminate the risk of cancer, as evident upon the present case report.**CONCLUSION:** Optimal management of esophageal corrosive injuries remains a debatable issue in terms of choosing between conservative therapy and surgical intervention. For this reason, the need for long-term follow up regardless the ingested substance and the preferred therapeutic approach is highlighted.© 2016 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Ingestion of corrosive liquid products leading to caustic injury of the upper gastrointestinal tract constitutes a non-negligible factor of morbidity worldwide. Accidental ingestion by children is the most frequent presentation encountered, while in adults it usually occurs in the context of suicidal attempts [1]. The pathophysiological impact on the gastrointestinal tract and systematically varies significantly, depending on the acidic or the alkaline load along with the level of ionization and the duration of exposure [1]. As far as the management is concerned, it should be initially conservative while surgical approaches are implemented in case of complications such as perforation or stenosis [1]; however, this issue remains controversial taken into consideration the fact that caustic ingestion

significantly increases the long-term risk of esophageal squamous carcinoma development [1,2]. Herein, we report a case of a patient that developed squamous esophageal cancer on the ground of a caustic injury caused by ingestion of acidic substance, for which she had undergone near total esophagogastrrectomy.

2. Presentation of case

A 62-year-old woman presented with sudden onset dysphagia approximately 20 days before, along with weight loss, neck swelling and pain. Her medical history was remarkable for an esophageal caustic injury due to intentional nitric acid ingestion 35 years ago. Surgical management had been considered as appropriate and, thus, a near total esophagogastrrectomy with posterior mediastinal interposition of the right colon had been performed (Fig. 1). Until recently, the patient reported no discomfort. Upper gastrointestinal endoscopy indicated a smooth stricture of the anastomosis at 22 cm from the incisors that occluded the lumen. After the dilation, a polypoid mass beneath the stricture was revealed and biopsies were taken. Magnetic Resonance Imaging

* Corresponding author at: Department of Foregut Surgery, 1st Propaedeutic Surgical Clinic, "Hippokration" General Hospital of Athens, National and Kapodistrian University of Athens, 114 Vas. Sofias Av., 11527 Athens, Greece.

E-mail address: j.dan@windowslive.com (I. Ntanasis-Stathopoulos).



Fig. 1. Clinical presentation of the patient.

(MRI) showed a 4.3×3.5 cm soft tissue mass in the prevertebral space at the level of the left thyroid lobe (Fig. 2). Pathologic examination of the endoscopic biopsies confirmed the diagnosis of an invasive squamous cell carcinoma grade II. Subsequently, the patient was referred to the oncological department for initial chemoradiation therapy.

3. Discussion

Ingestion of caustic substances is considered as a major risk factor for developing esophageal carcinoma given the fact that it is thought to increase the probability of neoplasia by 1000-fold compared to the general population. The percentage of patients with corrosive injury that eventually present with cancer of the esophagus is estimated between 1% and 30%, while the latent period usually ranges from one to several decades [1,3]. However, the lack of large series of patients with close follow-up and the absence of determination of possible confounding factors do not confer rigidity to the data from a statistical point of view.

It is well accepted that each corrosive substance provokes different patterns of injury depending on its acidic or alkaline content [1,4,5]. On the one hand, alkalis ingestion results in liquefactive necrosis and saponification leading to deep tissue penetration and full thickness injury. On the other hand, acids are responsible for eschar formation due to coagulation necrosis which confines the tissue injury to the mucosa; thus the patients have a milder clinical presentation [1,4]. It has to be noted, though, that strong acids may cause severe tissue damage and systematic complications similar to those of alkalis [1]. Most of the patients have a history of alkaline substance ingestion taking into consideration their widespread use in the daily life and the induced complications, while acid ingestion is relatively rare [4,6]. Accordingly, there are only a few reports of esophageal carcinomas associated with a prior acidic injury in the literature, which may be also correlated with a different mechanism of carcinogenesis compared to alkalis [5].

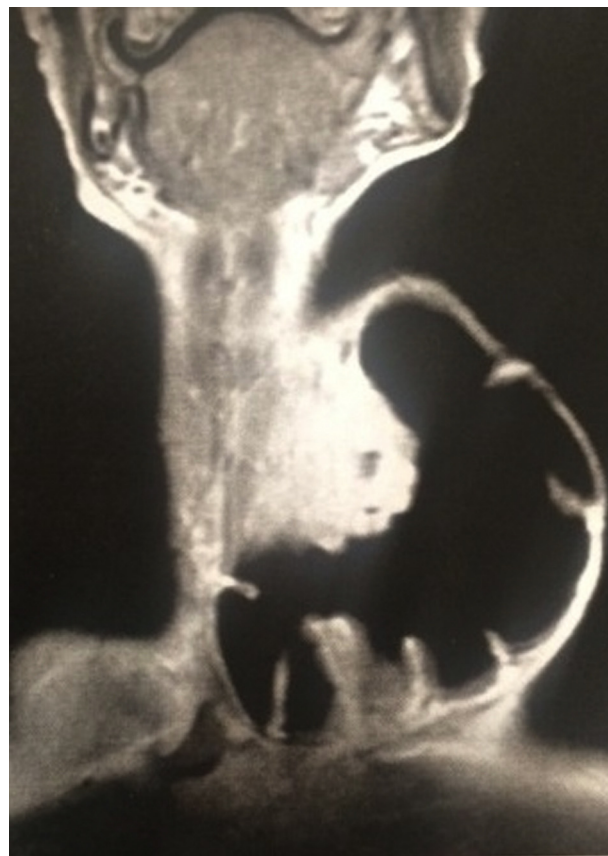


Fig. 2. Coronal MRI section revealing a 4.3×3.5 cm soft tissue mass at the level of the left thyroid lobe.

According to the medical literature, most esophageal carcinomas occur in the cicatricial tissue and the areas of anatomic narrowing, either natural ones or due to corrosive injury [1,6]. It has been supported that intermittent traumatic injury during dilations, food stasis and reflux of acidic content are associated with bad nutritional status and chronic inflammatory processes ultimately inducing carcinogenesis [3,6]. Furthermore, it has to be underlined that they tend to have a better prognosis than the rest of esophageal cancers [3,5–7]. It has been suggested that intra- and peri-tumoral fibrosis and subsequent occlusion of the lymphatic veins may constitute an obstacle to regional and lymphatic spread of the tumor [5,6]. Additionally, the intramural growth of the tumor leads to early symptoms such as dysphagia [3,7]. For these reasons, early diagnosis and optimal oncological outcomes are usually feasible. However, in some cases the diagnosis might be challenging due to overlapping symptoms between caustic injuries and esophageal carcinoma along with the possible occlusion of the lumen and the inaccessibility to the abnormal site, as described by Zhang et al. [3], as well as in our case that the mass was revealed only after endoscopic dilation.

Optimal management of esophageal corrosive injuries remains a debatable issue. There has been a controversy about whether the long-term benefits of esophagectomy outweigh the possible complications [2,4]. Moreover, it has yet to be precisely determined whether a partial esophagectomy is sufficient enough to reduce the risk of cancer or a more radical surgical management should be followed. A comprehensive review concluded that a total esophagectomy is indispensable considering that the estimated occurrence of esophageal carcinoma is high and the unaffected portion of the esophagus is not devoid of the increased risk [2], as reported in two cases by Cískos et al. [7]. In addition, the

safety of surgical treatment has been documented, especially as far as transhiatal esophagectomy and gastric pull-up with cervical anastomosis is concerned [4], while colon interposition graft necessitates careful perioperative management [8].

4. Conclusion

To the best of our knowledge, this is the first report of esophageal carcinoma after near total esophagogastric resection due to acidic caustic injury. It highlights the importance of lifelong close follow-up of patients with a history of corrosive ingestion regardless the implemented therapeutic approach and the high suspicion of malignancy in the light of alteration in symptoms, suggested by other authors as well [2,5,6]. Current evidence on the issue is based primarily on limited retrospective data and, thus, methodologically strict studies providing higher level of evidence are needed to draw certain conclusions about the short- and long-term management of caustic injuries of the upper gastrointestinal tract.

Conflict of interest

None.

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None.

Ethical approval

Ethical approval has been obtained from the local institutional review board.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

INS conceived and designed the study, analyzed and interpreted the data and drafted the manuscript. ST conceived and designed the study, acquired the data and drafted the manuscript. VX, NK and CL acquired the data and revised the manuscript for important intellectual content. DT conceived and designed the study and revised the manuscript for important intellectual content. All authors gave final approval of the submitted version.

Guarantor

Ioannis Ntanasis-Stathopoulos, Dimitrios Theodorou.

The present case report is in accordance with the CARE criteria [9].

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